ABSTRACT

It is an object of the present invention to provide a method of forming a cationic electrodeposition film, which has no detrimental effect on basic performances of electrodeposition that a curing property in low temperature and the stability of pigment dispersion are good and basic performances such as corrosion resistance and a rust-preventive property are maintained while maintaining both surface smoothness and economical advantage and exhibits the extremely precise throwing power and can attain an excellent ability of preventing a pinhole due to gas.

A method of forming a cationic electrodeposition film, comprising immersing an article to be coated, composed of a galvanized steel sheet, into a bath tank filled with a cationic electrocoating liquid containing a base resin and forming an electrodeposition film on the surface of the above galvanized steel sheet by current-carrying,

wherein an electric through hole is formed within the above film to secure the conductivity of the above film in order to wipe out a spark discharge phenomenon arising due to the presence of a hydrogen bubble produced through cohesion of hydrogen gas, with the passage of time, generated by the above current-carrying at a gap of the film, which develops in depositing/forming the film by the above current-carrying and increasing its thickness with the passage of time, on the surface of the above galvanized steel sheet, and

thereby an increase in an electric resistance value ($k\Omega \cdot cm^2$) per unit weight (mg) of the above film is inhibited.